

REMARKS

Claims 1-10 and 23-41 are all the claims pending in the application. Reconsideration and allowance of all the claims are respectfully requested in view of the following.

Claim Rejections - 35 U.S.C. §103

The Examiner rejected claims 33-40 under §103(a) as being unpatentable over US Patent 6,227,836 to Kato et al. (hereinafter Kato) in view of US Patent 5,635,223 to Korsch et al. (hereinafter Korsch). Applicant respectfully traverses this rejection because the references fail to teach or suggest all the elements as set forth in the claims.

Claim 33 sets forth an apparatus, for automatically loading a desired amount of powder material into a hollow mold, comprising: a rotary table, a powder filling mechanism including at least one support plate having a hole sized to receive the upper end of the mold, and at least one hopper movably disposed on the support plate, wherein the upper end of the mold may be fitted in the hole when the mold is in a powder filling position without any substantial clearance therebetween and with the top surface of the support plate and a top surface of the mold being substantially flush with each other.

First, Kato fails to teach or suggest both a rotary table and a support plate having a top surface and a hole therein sized to receive the upper end of the mold. The Examiner asserts that Kato discloses a powder filling mechanism 2 and a support plate (12, 2).¹ But the Examiner's interpretation of Kato is mistaken. Instead, Kato teaches either a rotary table, or a support plate having a hole therein. If small diameter first table 2 is taken as the claimed rotary table, then there is no support plate having a hole. Although the Examiner asserts that hopper receiver 12 may be a support plate, the hopper receiver 12 does not have a hole therein let alone one sized to receive an upper end of a mold, as set forth in claim 33. Alternatively, if small diameter first table 2 is taken as the claimed support plate having a hole therein, then there is no rotary table, as the Examiner asserted that element 3—the other rotating table in Kato—is the mold conveyor

¹ Office Action at page 2, item 2, paragraph 3.

system.² Further, in this latter situation, again, the Examiner's asserted support plate fails to include a hole sized to receive an upper end of a mold, because hole 6 is the same size as the opening of mold 7. See, for example, Kato's Fig. 3B.

Second, Kato fails to teach or suggest that the upper end of the mold may be fitted in the hole in the support plate when the mold in is a powder filling position without any substantial clearance therebetween and with the top surface of the support plate and a top surface of the mold being substantially flush with each other. Instead, Kato teaches that the holes 6 in support plate 2 have the same diameter as the mold cavities 7.³ Further, as shown in Figs. 3B and 3C, the support plate 2 and its holes 6 are disposed above second table 3 and its mold cavities 7. Accordingly, the mold 7 is not fitted in the hole 6 so that the top surfaces thereof are flush with each other.

Korsch fails to cure the above-noted deficiencies in Kato. The Examiner relies on Korsch as teaching replaceable dies that may be rapidly removed upon wear or to exchange with other sized dies. But one of ordinary skill in the art, following the teachings of Korsch and Kato, would include removable dies in Kato's table 3, wherein the mold cavities 7 are located. In such a situation, however, the dies would still not be disposed within the holes in the support plate 2 so as that their top surfaces would be flush with each other. Instead, the dies and mold cavities 7 would still be disposed below the table 2.

For at least any of the above reasons, Kato and Korsch fail to render obvious claim 33. Likewise, these references fail to render obvious dependent claims 34-38.

Claim 39 sets forth a powder filling mechanism comprising a support plate having a top surface and a hole sized to receive the upper end of the mold, and a hopper, wherein the hopper is movable on the top surface of the support plate and across the top surface of the mold.

First, Kato fails to teach or suggest a support plate having a hole, as set forth in claim 39, i.e., a hole that is sized so that the upper end of a mold may be fitted in therein without any substantial clearance therebetween and with the top surface of the support plate and a top surface

² Office Action at page 2, item 2, paragraph 2.

³ Kato at col. 3, lines 60-65.

of the mold being substantially flush with each other. Instead, Kato discloses a first table 2 having filling holes 6 therein, and a second table 3 having mold cavities 7 therein. The Examiner asserts that the first table 2 is a support plate and the mold cavities 7 are molds. With such an interpretation, as noted above, Kato then fails to teach or suggest that the hole 6 in the support plate 2 is sized so as to receive the upper end of the mold 7 in the manner as set forth in claim 39. Instead, the hole 6 and mold 7 have the same diameter.

Second, Kato fails to disclose that the hopper is disposed so as to be movable across the top surface of the mold. As shown in Figs. 2 and 3A, the hopper 11 is disposed over table 2 so as to fill the holes 6 therein; it is not disposed so as to slide across the top surface of table 3 and its mold cavities 7 therein. That is, the table 3 is disposed so as to be under a position B of table 2 that is 180 degrees from the position A where hopper 11 is located. See Fig. 1. Further, table 2 is disposed so that it comes between the hopper 11 and the table 3, so that the hopper cannot slide across the top surface of the molds 7 in table 3.

Korsch fails to cure the above-noted deficiencies in Kato. The Examiner cites Korsch as teaching removable dies. Accordingly, even assuming that one of ordinary skill in the art were motivated to combine Korsch with Kato, any such combination would still not teach or suggest a support plate having a hole sized so as to receive an upper end of a mold, or a hopper that is disposed so as to slide across the top surface of a mold cavity, as set forth in claim 39.

For at least any of the above reasons, Kato and Korsch fail to render obvious claim 39. Likewise, these references fail to render obvious dependent claim 40.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 23-32 and 41 are allowed over the prior art. However, the Examiner's reasons for indicating allowable subject matter merely loosely paraphrase the claims and, therefore, are not an accurate restatement of the claimed invention.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Jeffrey A. Schmidt
Registration No. 41,574

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
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